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children excite more or less fear. I have often wondered why they were called "cow-killers;" having till the past summer never heard of any animal or person being injured by them. A cow, however, eating grass, and with the nose pressing one of them would probably be stung very severely. The sting, long, black and sharp, can be protruded almost the length of the whole body. Last summer I met with two persons who had been stung by the Mutilla—one, a negro man, who was stung when a cow-boy in Virginia; the other, now owner of Ballew's Creek Mills, in Forsyth Co., when a boy was riding under a dogwood bush, and knocked off one which fell into his shoe. The pain from the sting was great, the foot swelled, and he was lamed for a few days; but in neither of the cases were the symptoms alarming.

This insect is remarkably tough—difficult to kill. Unless the ground is very hard, it may be trodden upon with the boot, and rubbed and scrubbed into the earth, and yet when the foot is removed it will work itself out and run off apparently unhurt. Its whole envelope has the toughness of leather. The specimens sent are evidently larger than the *M. europæa.—Nereus Mendenhall, M. D., Westminster, Guilford Co., N. C.*

ZOÖLOGY.

TRANSACTIONS OF THE LINNÆAN SOCIETY OF NEW YORK.—This Society, which has been in existence for several years, issued in December, 1882, its first volume of Transactions in royal octavo form of 168 pages, and is unexceptionable as regards paper and presswork. The spirit of the papers making up the text is excellent, as they are based on extensive and painstaking field work. The first article is the longest, it is devoted to a fresh and valuable account of the mammals of the Adirondack region, a work which we have noticed in another place. The second article, by Mr. Wm. Dutcher, is entitled "Is not the fish crow (*Corvus ossifragus* Wilson) a winter as well as a summer resident at the northern limit of its range?" He answers the question in the affirmative, the evidence tending strongly to show that the bird is a permanent winter resident in its northern habitat, instead of a rare summer visitor. The third and last article is "A review of the summer birds of a part of the Catskill mountains, with prefatory remarks on the faunal and floral features of the region." By E. P. Bicknell. Some of the mammals and all the batrachians and reptiles noticed in the Catskills are enumerated. The author does not accept the claim that two efts, *Diemyctylus miniatus* and *viridescens* are identical, as claimed by a writer in this journal (xii, 399). The paper is an interesting and comprehensive sketch of the natural history of a beautiful mountain region.

REMARKS ON THE DISTRIBUTION OF MARGARITANA MARGARITIFERA (LINN).—Already much has been said in the pages of the NATURALIST in regard to this species, yet a fuller exposé of its eastern distribution may not be without interest. Mighels in his Catalogue of the Shells of Maine (Boston Jour. Nat. Hist., vol. IV., p. 325, 1843), says: "This species is plentiful all over the State. * * * It occurs plentifully at Cape Elizabeth, near the sea" "Specimens from different localities differ much among themselves, being more or less curved, or elongated, and some are perfectly straight, differing in no respect from *U. sinuosa* and *elongata* of Lamarck, from Germany and France. With Mr. Lea I believe them identical." E. S. Morse, in his "Observations on the Terrestrial Pulmonifera of Maine" (Journ. Portland, Soc. Nat. Hist., 1864, pp. 47 and 52), refers to the species as common and "found in great numbers in several rocky, muddy brooks, near Portland. Have rarely found it in the interior." The species is by no means rare in Massachusetts. It occurs in Charles river, at Newton, Mass., the shells are here well developed; at Lunenburg the shell is found in small brooks and the specimens are diminutive in size, scarcely attaining a length of 2½ inches; it is also found at Leominster, an adjoining town, and under similar conditions. At the village of Haydenville, a part of Williamsburg, in Hampshire county, it is found in the greatest abundance, very perfect, and of large size, in the tributaries of Mill river; it is doubtless found in the streams of Worcester county, in the central portion of the State. Gould, in his "Invertebrata of the State" (both editions, 1841 and 1870), gives it as found in many of the streams of the State, but not near the seaboard. Dr. James Lewis, in his "Shells of New York," includes it by name only, giving no localities, he not having had access to De Kay's "Mollusca of New York," while making his list. De Kay gives it as "one of the largest and most common Unios," and as "from Rockland county, Champlain, Oneida and many other localities." J. F. Whiteaves in his paper "On the Land and Fresh Water Mollusca of Lower Canada" (p. 17), says: "Very large and fine in St. Charles river, near Quebec; J. F. W. Green and Rimouski rivers; both of the Matapedia lakes; Lake St. John, R. B." In his "Mollusca of Nova Scotia, 1877," J. Matthew Jones says: "Fresh water lakes and streams." During a visit to the southwestern portion of Nova Scotia in 1879, by the writer, while making an examination of the lakes and waterpower of Yarmouth and the lower portion of Digby counties, he observed large numbers of Unios and Anodontas in the region, but failed to discover *M. margaritifera*.

In the spring of 1882 specimens were received from Professor A. Hyatt, of Boston, for identification; they were collected by him at the Island of Anticosti, in Fox river, during the summer of 1881. Professor Hyatt had previously visited the island in company with Professors Shaler and Verrill, in 1861, and made large collections for the Agassiz Museum, at Cambridge, and though the fresh waters of the islands were then diligently searched no Unionidæ were found. It is not improbable that the *Margaritana margaritifera* made its advent during that interval; its occurrence upon this sea-girt and isolated island, separated from the main land by at least twenty miles of open water, is an interesting fact, and presents a problem in the distribution of fresh-water shells, which only the methods of Darwin can surmount. The occurrence of the form *falcata* of Gould in the waters of Oregon, the occurrence in the streams emptying into Columbia, and into Puget sound, as recorded by Cooper; the localities recorded by Carpenter, east of the Rocky mountains; and the known high range of the species in Europe, make its occurrence in the intermediate portions of the British possessions not improbable, and I confidently look for it in these waters, when they are more fully examined.—*A. F. Gray.*

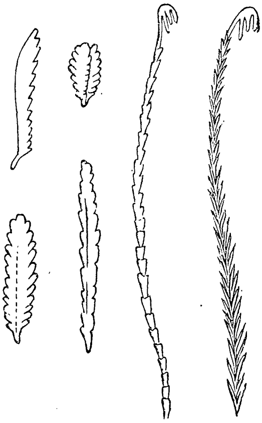
THE SYSTEMATIC POSITION OF THE ARCHIPOLYPODA, A GROUP OF FOSSIL MYRIOPODS.—Mr. S. H. Scudder early last year published in the Memoirs of the Boston Society of Natural History an elaborate paper, with four excellent plates, entitled "Archipolypoda, a subordinal type of spined Myriapods from the Carboniferous Formation." The author has been fortunate in obtaining valuable material for this work, and has with great evident pains and throughness worked out the characters of these Myriopods, the remains of which belong to four genera and twelve species. He regards the Myriopods as an "order," and the Chilopoda and Diplopoda as "suborders," and proposes for the group of Carboniferous Myriopods under consideration the term *Archipolypoda*, considering them as constituting a group equivalent in rank to the Diplopods (or Chilognaths).

The *Archipolypoda* are thus characterized; "Palæozoic Myriapods, with a fusiform body, largest near the middle of the anterior half or third, the head appendages borne upon a single segment; each segment behind the head composed of a single dorsal and two ventral plates, the dorsal of nearly uniform length superiorly and inferiorly, occupying most of the sides as well as the top of the body; destitute of foramina repugnatoria, and divided into ridged anterior and flat posterior portion, the anterior provided with longitudinal rows of spines or tubercles; the ventral plates occupying the entire ventral portion, each having a pair of long jointed legs, and furnished outside of them with large spiracles, the mouth transversely disposed."

Having been recently studying the Lysiopetalidæ, a rather aberrant and synthetic family of Chilognaths, we have, after reading Mr. Scudder's memoir in order to ascertain their relation to his Archipolypoda, felt obliged to dissent from some of his conclusions, though not doubting the evident accuracy and clearness of his descriptions of the remains upon which his genera and species are based.

The above quoted definition will apply in some points to the

Lysiopetalidæ and the characters are those, it appears to us, which indicate a group of Chilognaths (Diplopoda), standing below but equivalent in rank, perhaps, to the existing forms taken together. In his comparisons with the Chilognaths, the author seems to have had the Julidæ in view, and not to have mentioned the Polydesmidæ or Lysiopetalidæ; for some of these and other Chilognaths have a "fusiform body." That the "head appendages "are borne upon "a simple segment" is an assertion which Mr. Scudder's figures do not apparently indicate. The head is swollen on the sides, and is much wider than the three succeeding body-segments, which are narrower than those behind (pl. 13, fig. 16), as in the Lysiopetalidæ. Only the antennæ are figured and nothing is said of the mouth parts. From the author's figures we seem justified, from the general shape of the head, in supposing that Euphorberia and its allies resembled other Chilognaths in having a pair of mandibles and a labium or under lip. This implies, of course, that like all Chilognaths the head is composed of three segments. The presence or absence of repugnatorial pores is not important. We have been unable to find them in Lysiopetalidæ, though they may exist, as these Myriopods are well known to secrete an abundant malodorous fluid. The "long jointed legs" are little if any longer than in the Lysiopetalidæ, where the legs are remarkably long as compared with the Julidæ. In the Lysiopetalidæ the anterior part of the segments is swollen anteriorly and bears tubercles ending in setæ, while the posterior portion is flat. The characters "destitute of foramina repugnatoria, and divided into a ridged anterior and flat posterior portion, the anterior provided with longitudinal rows of spines or tubercles," will apply to the Lysiopetalidæ as well as to the group under consideration. The nature of the spines of the Archipolypoda forms a remarkable feature. They are often large, stiff and spined in certain genera—in one genus (Eilecticus) they form simple warts. The singular spinulate spines give an *outré*, bizarre appearance to these fossils; but an approach to them, we think (contrary to the author's opinion, see p. 144, foot note 3) is seen in the barbed setæ on the segments of the embryo Strongylosoma. The author does not refer to the spinulose or barbed setæ so abundant on the little living *Polyxenus fasciculatus*, also a Chilognath, which though more numerous and minute are apparently homologous with those of Euphorberia, etc.



Spined setæ of Polyxenus.
A. M. Edwards del.

The antennæ are not referred to in the diagnosis of the suborder, but in his comparisons the author only refers to the typical

Chilognaths, *i e.* the Julidæ. They appear, in reality, in length to be intermediate between those of the Julidæ and Lysiopetalidæ; the terminal joint is long and free, and seem, as seen in Pl. 13, figs. 7 and 18 to be 7-jointed as in all Chilognaths, the terminal or seventh joint being rather long and slender, as in the Lysiopetalidæ.

The most striking character of the Archipolypoda appears to be the presence of a large spiracle on *each* segment instead of alternate segments, as in Chilognaths and Chilopoda. In position the spiracles are as in other Myriopods.[1] Another important features is the great development of the sterna, which are broad, so that the insertion of the legs are wide apart; the scuta do not of course descend so far down on the sides as in the Julidæ; but an approach to the form of a section of the body, is seen in the Polydesmidæ, and particularly in Polyxenus; in this genus, as in the Archipolypoda, the sternites or "ventral plates" also "occupying the entire ventral portion." With the exception of the fact that the spiracles are apparently developed upon *each* segment instead of alternate, we do not find in the author's diagnosis any good reason for establishing a suborder equivalent to the Chilognaths.

They appear to us to constitute a group nearly equivalent to the Lysiopetalidæ, but standing below them. We would agree with Mr. Scudder that the Archipolypoda are an ancient type and the precursors of the modern Chilognaths. This is suggested by the retention and enlargement of the spiny setæ which occur in embryo and larval Chilognaths, and the presence of a pair of spiracles on each segment. In Hexapoda each segment behind the head in the embryo bears a pair of spiracles, and when as much is known of the development of Myriopods as of that of Hexapods and Arachnids, this may be the case with Myriopods. The essential characters of the Chilognaths are that all the postcephalic segments behind the three first, bear each two pairs of legs.[2] The Archipolypoda do not differ from them in this respect. Another essential feature is that they possess one pair of mouth-appendages less than the Chilopods; and from the form of the head, the eyes, the antennæ and especially the swollen genæ of Scudder's figs. 16, 18, pl. 13, which recalls the peculiarity in the Lysiopetalidæ, we have good reason for inferring that the Archipolypoda had a pair of mandibles and a pair of maxillæ, *i.e.*, an under lip.

The legs of some of the Archipolypoda appear to be "compressed and slightly expanded, strengthened also on the flattened surface by longitudinal ridges, and have in every respect the aspect of *swimming legs* in those specimens in which the appearance of the legs is most clear." In some of the figures the legs appear to be much in form and length as in the Lysiopetalidæ. In speaking of the legs, Mr. Scudder seems to have in mind only the even-jointed legs of the Julidæ; but those of the Lysiopetalidæ resemble the legs of the Archipolypoda in having the joints very uneven; the third joint being about one-third as long as the entire leg. Moreover, the legs of certain existing Myriopods are, if we mistake not, more or less flattened. Besides the second pair of legs in Sphæropœus, which are flattened, adapting them for clasping; those of certain Ceylonese Julidæ, figured by Humbert (pl. IV., fig. 19*h* and 21*g*), have broad expansions on some of the joints, though the legs end in claws. The legs of Euphorberia and all the other Archipolypoda end, apparently, in sharp points, and this indicates that they must have had sharp claws. We do not see that the form of the feet indicates aquatic habits; had they been adapted for swimming we should have expected that their form would have been more or less spatulate and without claws.

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[1] In Polyxenus, however, there are, according to Bode, two minute pairs to each segment (see his Vol. XIV, fig. 14).

[2] It should, however, be borne in mind that Pauropus is partly, and Eurypauropus almost wholly diplopodous. We are almost inclined to regard them as degenerate Chilognaths, but at present should retain them as types of a distinct order; they are however much more aberrant forms than the Archipolypoda.

A singular feature of the Archipolypoda are "peculiar organs, situated one on either side of the median line, at the very front edge of the ventral plate; to these it seems to be impossible to assign any other function than that of support for branchiæ; they consist of little tringular cups or craters, projecting from the under surface, through which I believe the branchial appendages protruded; so far as I am aware, no other organs than branchiæ have been found in any Arthropoda situated within the legs, and repeated in segment after segment." These structures are certainly remarkable, and suggestive of branchial supports, and it is to be hoped that fossils will be discovered, with remains of the branchiæ themselves. Whether an aquatic, swimming branchiate Myriopod would have such large spiræles may be questioned. But at any rate the Archipolypoda are a most interesting group, whatever be our views as to their position and nature; they may be regarded as larval forms, and in some degree as synthetic forms, with no modern representatives. Still, we should not exclude the type from the Chilognaths, though, perhaps, forming a suborder of the Chilognaths, assuming that the Myriopods should rank as subclass. Thus the order of Chilognaths might be divided into two suborders, the lower and more larval and extinct group being the Archipolypoda, and the higher the genuine Chilognaths. In this connection it may be observed that the embryo Chilognaths have at first but a single pair of legs to each segment; in subsequent stages new segments are added, from each of which two pairs of legs arise. The possession of two pairs of legs, then, is a secondary and acquired character. We have a parallel to it in a family of Phyllopod Crustacea, the Apodidæ, in which from two to six pairs of legs in post-larval life arise from a single segment.—*A. S. Packard, Jr.*

THE VOGMAR OR VAAGMÆR (TRACHYPTERUS ARCTICUS) AND THE KING OF THE HERRINGS (GYMNETRUS BANKSII.)—Dr. Lütken has recently published some valuable additions to our knowledge of these two deep sea fishes, based upon material that has accumulated in the museum of Copenhagen.

Thirteen examples, varying from 830 to 2200^{mm} (about 2 ft. 9 in. to 7 ft. 4 in.), of the former fish gave sufficient material to enable Dr. Lütken to decide that, spite of great variations in the proportional length of the head, height of the body, size of the eyes, profile of head, number of rays in dorsal and caudal, position of the lateral line, and position of the anus, which exceptionally is in advance of the middle of the length, there is but one valid species of Trachypterus in the northern seas.

After the study of this northern form, the author unhesitatingly declares his conviction that all the "species" described from the Mediterranean belong also to one species (*T. iris*) which can, however, be distinguished from *T. arcticus* by its longer and more gradually tapering tail and less elevated body. Rudiments of ventral fins, consisting of a broken prismatic exterior ray and remains of five other rays, were found in two examples; and the smallest of the series had distinct remnants of the five separate anterior dorsal rays, which in all the others were broken down to stumps hidden beneath the skin. Dr. Lütken believes that this loss of the nuchal and ventral fins is natural rather than accidental, especially as the dorsal fin itself is usually well preserved. The number of dorsal rays varies from 154 to 186 (without the nuchal rays), they are rough in the young, but in adults smooth, except for the basal spine. The length of the fin-rays generally is greatest in the young, and the spines of the lateral line, the last nine to fourteen of which are large and sharp, are in the young distinct to the origin of the lateral line.

The King of the Herrings is a much rarer fish, so rare that only thirty are on record from the coasts of Norway and England during 140 years. The Copenhagen museum possesses an example 12½ feet long from the Faroe islands. This was much broken, but was supplemented by a drawing executed before the animal was damaged. The anus is situated scarcely five feet from the front of the head, the greatest height is one foot, and the ventral fins are represented by two elongated, almost vitreous rays of rhomboidal section and three and three-quarters feet in length. The dorsal fin of this individual had 256 rays, besides eleven or more rays in two elongated nuchal fins. The long ventral rays end in a membranous expansion. From the accounts given of *Regaleus* (=*Gymnetrus*) *Grilli* (18 feet in length and with 400 dorsal rays), and of *R. glesne* (10½ feet long and with only 168 dorsal rays), and of other examples of fishes of this genus, Dr. Lütken concludes that the former is but an unusually large state of *R. banksii*, while the latter is at best an uncertain species. During the growth of the fish the tail appears to lengthen and increase in number of rays, while the relative height of the body and length of the head diminishes in proportion to the total length.

The dimensions of this fish are in Danish feet. Curiously Trachypterus, though found upon the coast of Norway, Ireland, Faroe and Iceland, has not yet occurred upon that of North America.

The principal distinctions between the two genera are the prolongation almost to the extremity of the tail, of the cul-de-sac of the stomach; and the greater feebleness of the skeleton and greater elongation of the vertebræ in Regalecus. In both genera there are about 100 vertebræ. The vogmar has no ribs, while the eighth to the twenty-fourth vertebræ of the King of the Herrings have true ribs.

NOTES ON FLORIDIAN AND TEXAN FISHES.—During a short stay at Pensacola and Galveston Prof. Jordan collected 129 species of marine fishes, of which sixteen were previously undescribed.

There are apparently seven species of Carcharias in the waters of the Atlantic and Gulf coasts, including one which may prove to be new. The cyprinodonts taken were nine in number, including two new Funduli. The Spariodæ are represented by ten species, among which is the red snapper or Pargo colorado (*Lutjanus blacfordi*) the most important food-fish of the Gulf coast. This is taken with hook and lines on the "Snapper Banks," some five to thirty miles off shore. It reaches a weight of about 35 pounds. *Mullus barbatus*, the famous European surmullet, was represented by a specimen taken from the stomach of the red snapper. This is the first authentic record of the occurrence of this species on our coast.

Among the new species were a Prionotus (*P. scitulus*), *Porichthys plectrodon*, a Gobiesox (*G. virgatulus*), four blennioids, and two flat fishes of the genus Paralichthys.

SHUFELDT'S CONTRIBUTIONS TO THE ANATOMY OF BIRDS.—Little, except the papers by Dr. Coues on the osteology of the loon, and of J. A. Jeffries on the fingers of birds (*Nuttall Bulletin*) had been done in this country in the osteology of our native birds before Dr. Shufeldt began his series of papers in the Bulletin of Hayden's Survey, and in the pages of this journal. The present work occupies from page 593 to 786 of the Twelfth Annual Report of the U. S. Geological and Geographical Survey, F. V. Hayden U. S. Geologist-in-Charge, and has been published (Oct. 14th, 1882) in advance of the report itself. Dr. Shufeldt's work beginning with an account of the osteology of the burrowing owl (*Speotyto cunicularia hypogæa*), next treats of the osteology of *Eremophila alpestris*, with abundant illustrations. These and the next chapter are revisions of papers previously published in the Bulletin of the Survey. Of a more elaborate character is the chapter on the osteology of the Tetraonidæ, as here we are treated to new matter on the habits and distribution of some of the western members of this family. In this, as in former monographs, the author omits any detailed description of the osseous elements of the ear, or the respiratory tube, small sesamoids, or such tendons as may ossify in the extremities. It would be impossible, even if we had the requisite knowledge, to make any abstract of this interesting comparative sketch of a group belonging to the Gallinaceous birds, concerning whose osteology so much has been written. We pause to notice that Dr. Shufeldt applies the name *pentosteon* to what in the first edition of this monograph he called the pisiform bone, and which is the fifth bonelet in the avian wrist. The chapter on the skeleton of the Lanius or shrike is succeeded by an interesting comparative essay on that of the vultures. The publication of these papers should exert a most healthy influence on the scientific study of the birds of this country, as the tendency is in systematic ornithology too much towards a reliance on superficial, external characters.

A WHITE RAVEN.—A milk white raven, with pale pink eyes and red legs, is now being exhibited in the Berlin Aquarium, to the material augmentation of that admirable institution's daily receipts. It received admission to the great central aviary in which scores of beautiful birds flutter and chirp and build their nests in comparative freedom, but his presence there spread such general panic among the remaining inmates of the *voliere* that it has been found necessary to remove him to a separate cage. Strange as it may seem, the other birds instinctively recognized that this corvine albino was abnormal, and therefore terrible. Many of them became total abstainers from food and drink through sheer fright while he shared their quarters, and huddled together, shivering, at as great a distance from the fearful anomaly as the limits of their prison would permit them to attain. In all respects, save its extraordinary hues, the raven is as other ravens. His appetite is apparently insatiable, and he ministers to it with a formidable beak. Neither in tone nor delivery is there any unusual mellowness or tenderness about his croak. His pink eyes could not be more steadfastly engaged in contemplating the main chance were they as yellow as burnished gold. He was found with a coal-black brood of brothers and sisters, in a nest built by his parents —whose surprise at his peculiar appearance must, we should think, have been considerable—on the topmost branch of an old tree in the Georgenthal, a valley of Thuringen. Doubly an anachronism, this snow-white raven is at present one of the "lions" of the German capital.—*Forest and Stream.*

THE ANATOMY OF THE CHIROPTERA.—M. A. Robin has recently devoted much study to the anatomy of those parts of the bats which are not employed in locomotion, and which have been neglected by most naturalists, who have mainly devoted themselves to the skeleton and muscular system. The examination of one or more genera of all the important types proves the Chiroptera to be a very homogeneous group, one of the most homogeneous of the mammalian orders. The genus Harpyia links together the two suborders usually admitted, since its skeleton is that of a roussette, and its viscera those of a bat. The digestive apparatus varies in accordance with the habits of the sections of the order, but these variations are only those which are physiologically necessary, such as differences in the shape of the teeth, the capacity of the stomach, the length of the intestine, and the development of the glands. Apart from variations in relation to alimentation, the stomach is constructed according to two types, simple and compound. The pancreas is compact in the rousettes, diffused in ordinary bats. Among the constant characters of the digestive system are the presence of peculiar tridentate tooth-like processes (*odontoides*) near the tip of the tongue, and the very general existence of two entirely distinct pairs of sub-maxillary glands. The relations of the glottis with the palate are similar to those found in the horse and the elephant, and enable the bats to keep the mouth open while flying without deranging respiration. The larynx is simple and normal, but in some forms vocal boxes (*caisses*) are formed by the modification of the superior tracheal rings. There are considerable variations in the structure of the accessory glands of the male genital apparatus. All the forms of uterus known among mammals can be found in this order. In some species the uterus is a single vessel like that of the highest primates; but more generally it is bicornate, with very various degrees of development of the horns with respect to the body. Others have two distinct uteri placed side by side for a portion of their length, so as to look like a two-horned uterus, and again, others have two completely separate uteri, opening separately into the vagina. The variability of this organ in an order so homogeneous as this is of a nature to show that too much importance has been attached to its coalescence or separateness in classification, and this is strengthened by the fact that, since M. Robin published his first researches, Mr. Watson has shown that the Indian elephant has not only two distinct uteri, but two distinct vaginæ also. M. Robin has proved that the umbilical vesicle, though attached to the chorion during all foetal life takes no part in its vascularization, which is entirely of allantoid origin. Thus all the embryogenital characters show their relation to the primates.—*Condensed from Revue Scientifique, 22 Apr., 1882.*

ZOÖLOGICAL NOTES.—*Archiv für Naturgeschichte* Jahrg. 49, Heft. 1 (dated 1883, but received in November or December, 1882), contains a lengthy article by Dr. C. Bülow on division and regeneration in the worms (*Lumbriculus variegatus* Gr.). Bonnet cut a Lumbriculus into twenty-six pieces, several of which became complete animals. Of a Lumbriculus which Bülow cut into fourteen pieces, only one piece died, the rest developed a head and tail. Worms which had been operated upon occurred with two very well formed tails.——Dr. Bertkau in the same *Archiv* describes a case of sexual dimorphism in the Psocidæ.——The beginning of an important paper by Dr. Bedriagra, on the Amphibians and reptiles of Corsica also appears in this heft of the *Archiv.* The three plates representing the anatomy and osteology as well as the sexual apparatus, and the mode of sexual congress of a Corsican salamander are useful.——The hibernation of the jumping mouse has been described by C. J. Maynard in the Quarterly Journal of the Boston Zoölogical Society, Jan. 1883. "It enters the ground before the frosts set in, and makes a burrow from five to seven feet in depth, usually in sandy soil. At the end of this burrow it constructs a nest of dried grass, in the middle of which it lies curled up, in an unconscious state. Those which he removed, appeared as if dead, except that they were limp. The peculiar stupor they exhibited is their normal state during the winter. No food is ever found in the nest or burrow.——Mr. J. A. Allen recorded in the third volume (p. 645), of the NATURALIST, that the swallow-tailed hawk was seen at Watelv, Mass. Mr. A. P. Chadbourne records in the above journal, the fact that this bird was shot in Amesbury, Mass., Sept. 25.——In a communication to the *Scientific American*, Mr. Robertson states that bees do not injure grapes or other fruits that are in a healthy condition; but will suck at them the moment a wound has been made by birds or other insects, or by putrefaction. This he has proved by placing bunches of grapes close to a hive. No bee touched them until he punctured half of the grapes, when they at once attacked the punctured grapes.——M. Giard has discovered in the sands of the Glenans islands (Finisterre, France), an annelid which links the Lycoridæ to the Hesionidæ and Polynoë on the one side, and the Syllidæ on the other.——In the October issue of the *Am. Jour. of Science*, Mr. J. F. Whiteaves notices the discovery, by Mr. J. Richardson, then of the Geological Survey of Canada, of a recent polyzoon which cannot be distinguished by any tangible character from the Japanese and New Zealand species of Heteropora described by Messrs. Waters and Busk. The Japanese form was described in 1879 as *H. pelliculata*, and was the first recent example of a genus before supposed to be Mesozoic and Tertiary.——Mr. F. A. Lucas, in Ward's Nat. Sci. Bulletin, notices and figures some singular osteological abnormalities, such as the skull of a fowl, the frontal region of which is immensely developed; a seventh cervical vertebra of a pig, provided with a rib; a human foot and hand with the fifth digit duplicated; and some biped cats, with atrophied pelvis. These cats climbed and walked on their front legs, carrying the body almost perpendicularly. He also figures a deer's head with a third antler growing from a separate pedicel.——In the *Monatsbericht, K. Akad. Wiss.*

Berlin, Professor Peters describes a new species of his Chiropteran genus Mormopterus, from Amboina, and gives a synopsis of the five species comprised in that genus. The same naturalist describes in the *Sitz. Gesellschaft. Natur. Freunde*, four species of fishes and four of snakes, the latter including two of Typhlops from Africa, and two of Elaps from Ecuador; gives a review of the species of the families Typhlopidæ and Stenostomidæ; a description of a new Tachydromus from Amurland; a list of the seven Scincoids and Geckoes found by Herr Finsch in the Marshall, Carolina, and Gilbert groups (probably introduced from ships); a note upon the excrescences developed during the breeding season on the male of *Rana gigas*, an East Indian (Sikkim) species; and a description of two new species of snakes of the genus Psammophis. Professor Peters also describes three Scincoids, one from New Guinea, and two from South Australia, a Callophis from the Phillipines, and several annelids from various quarters. He also notices an example of the remarkable genus Potamogale from the interior of Angola. The insectivorous nature of the animal was fully proved by the contents of the stomach. In the same series of proceedings, Professor Von Martens describes several mollusks from the collection obtained by the corvette *Gazelle;* two Squillidæ, *Lysiosquilla polydactyla* from Chili, and *Gonodactylus trachurus* from the Mauritius, and some pulmonates from Central Asia; Herr Karsch describes several Coleoptera from the islands off the Guinea coast; Herr Hartmann gives some interesting particulars relative to the pectoral-muscles of certain fishes, especially those of a Periopthalmus from Madagascar, and Herr K. Brandt writes upon the mutual life of animals and algæ, describing certain genera and species of unicellular algæ which inhabit protozoa, sponges, hydrozoa, actinozoa, and turbellaria, and are the source of the chlorophyll found in those animals.——In the Bulletin of the Buffalo Society of Natural Sciences is a description of a new Tortricid, by C. H. Fernald, and notes upon the Spongillæ, by H. Mills. Mr. Mills adds to Mr. Potts' genus Carterella, so well characterized by the tendril-like prolongations of its statoblasts, a new species, *C. tubisperma.*——W. A. Forbes, Prosector to the Zool. Society of London, has examined the structure of the palate in several trogons, and finds that the maxillo-palatines neither unite with each other, nor with any median ossification, so that the Trogonidæ are not desmognathous, but schizognathus. As their nearest allies, the Bucconidæ, Galbulidæ, Coraciidæ, Podargus, etc., are desmognathous, Mr. Forbes believes that the importance of the palate in classification has been overestimated. Careful observations conducted upon an incubating *Python molurus* in the Zoölogical Gardens of London prove that the temperature of the female rises, on an average, 3° F. above the normal temperature—an increase nearly identical with that which results in cases of fever.